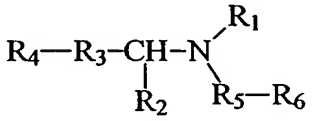
CLAIMS

What is claimed is:

1. A method for increasing survival of oligodendrocytes, comprising administering an effective amount of a deprenyl compound to a patient such that survival of oligodendrocytes is increased.

2. The method of claim 1, wherein the deprenyl compound is represented by the structure:



in which

R_1 is hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, or aryloxycarbonyl;

R_2 is hydrogen or alkyl;

R_3 is a single bond, alkylene, or $-(CH_2)_n-X-(CH_2)_m$;

in which X is O, S, or N-methyl; m is 1 or 2; and n is 0,1, or 2;

R_4 is alkyl, alkenyl, alkynyl, heterocyclyl, aryl or aralkyl; and

R_5 is alkylene, alkenylene, alkynylene and alkoxylene; and

R_6 is C_3-C_6 cycloalkyl or

$-C\equiv CH$; or

R_2 and R_4-R_3 are joined to form, together with the methine to which they are attached, a cyclic or polycyclic group;

and pharmaceutically acceptable salts thereof.

3. The method of claim 2, wherein R_1 is a group that can be removed *in vivo*.

4. The method of claim 2, wherein R_1 is hydrogen.

5. The method of claim 2, wherein R_1 is alkyl.

6. The method of claim 2, wherein R_1 is methyl.

7. The method of claim 2, wherein R_2 is methyl.

8. The method of claim 2, wherein R_3 is methylene.

9. The method of claim 2, wherein R_4 is aryl.

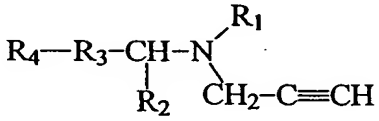
10. The method of claim 2, wherein R_4 is phenyl.

11. The method of claim 2, wherein R_5 is methylene.

12. The method of claim 2, wherein R_6 is

$-C\equiv CH$

13. The method of claim 2, wherein the deprenyl compound is represented by the structure:



in which

R_1 is hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, or aryloxycarbonyl;

R_2 is hydrogen or alkyl;

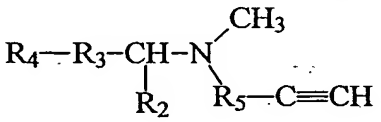
R_3 is a bond or methylene; and

R_4 is aryl or aralkyl; or

R_2 and R_4-R_3 are joined to form, together with the methine to which they are attached, a cyclic or polycyclic group;

and pharmaceutically acceptable salts thereof.

14. The method of claim 2, wherein the deprenyl compound is represented by the structure:



in which

R_2 is hydrogen or alkyl;

R_3 is a bond or methylene; and

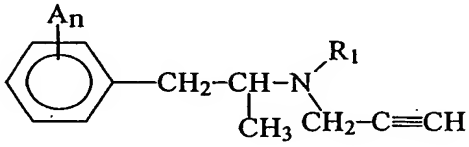
R_4 is aryl or aralkyl; or

R_2 and R_4-R_3 are joined to form, together with the methine to which they are attached, a cyclic or polycyclic group; and

R_5 is alkylene, alkenylene, alkynylene and alkoxylene;

and pharmaceutically acceptable salts thereof.

15. The method of claim 2, wherein the deprenyl compound is represented by the structure:



in which

R_1 is hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, or aryloxycarbonyl;

A is a substituent independently selected for each occurrence from the group consisting of halogen, hydroxyl, alkyl, alkoxyl, cyano, nitro, amino, carboxyl, $-CF_3$, or azido;

n is 0 or an integer from 1 to 5;

and pharmaceutically acceptable salts thereof.

16. The method of claim 1, wherein said patient is a human.

17. The method of claim 1, wherein said deprenyl compound is (-)-desmethyldeprenyl.

18. A method for inhibiting Multiple Sclerosis, comprising administering to a patient an effective amount of a deprenyl compound such that Multiple Sclerosis is inhibited.

19. The method of claim 18, wherein said deprenyl compound is (-)-desmethyldeprenyl.

20. The method of claim 18, wherein said patient is a human.

21. A method for increasing oligodendrocyte survival *in vitro*, comprising contacting oligodendrocytes with an effective amount of a deprenyl compound such that oligodendrocyte survival is increased.

22. A method for increasing oligodendrocyte survival in a patient, comprising contacting an oligodendrocyte with a deprenyl compound such that oligodendrocyte survival increases.

23. The method of claim 22, wherein said patient is a human.

24. The method of claim 23, wherein the deprenyl compound is (-)-desmethyldeprenyl.

25. The method of claim 24, wherein the (-)-desmethyldeprenyl is administered transdermally to the patient.